

AIR-PROPAGATOR by Parkway Greenhouse

What is Air-propagator?

“Air-propagator” is dynamic tool to enhance the success of air-layering propagation. Using the air-propagator makes air-layering easier, simpler and quicker than ever. Air-layering with air-propagators clones trees, vines, and shrubs within 45 to 90 days while the conventional way requires 2 ½ to 3 years to grow plants and trees.

What is Air-layering?

Air-layering is a method of reproducing plants by inducing roots to form on a plant stem without cutting off the stem from the parent plant. It is an excellent way to replicate existing plant without disturbing the parent plant bearing fruit or flowering. Air-layering can produce larger plants which are readily mature much faster than growing them from seed or cuttings.

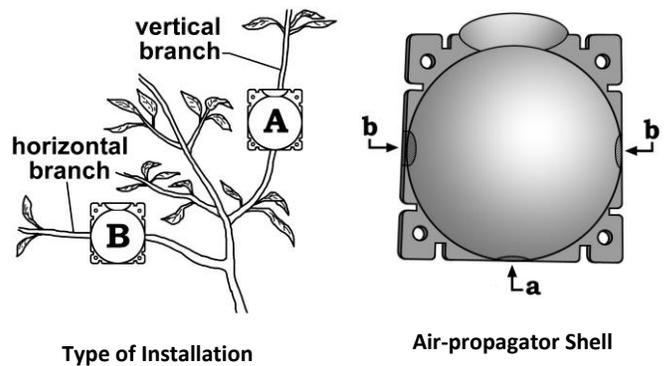
What Kinds of Plants Are Suitable for Air-layering with Air-Propagators?

“Air-propagator” works on almost all trees, shrubs, and vines, including plants which are hard to root from cuttings. However, stems of some plants, such as vines, are very fragile and require extra care when you remove/scrape the bark from stems.

Materials Needed for Air-layering Propagation.

- 2 “Air-propagator” shells*
- 2 Growing medium (soil disks)*
- 2 or 3 Stopper pieces*
- 5 Plastic ties* & 2 Metal binder clips **OR** 7 Plastic ties (for **Medium air-propagators**)
- Rooting hormone* (**optional, but recommended**)
- Sharp knife
- Cable cutter (**optional**)
- Pliers
- 1 quart of water

* Included in 2-pack/3-pack kit.



Preparation before Using Air-propagators.

Select Suitable Branch(es) for Propagation: For best results, choose a branch less than ½ inch diameter. If the branch is long and strong, more than one air-propagator can be installed. Remove all leaves and small branches, 6” to 8” radius from propagation point where air-propagator shells are installed.

Vertical or Horizontal Method:

If you select a **vertical** branch:

Choose method “A” as illustrated above. Remove the bottom piece (“a”) only from each air-propagator shell using pliers.

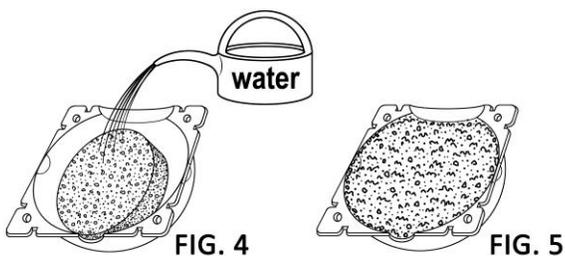
If you select a **horizontal** branch:

Choose method “B” as illustrated above. Remove the side pieces (“b”) only from each air-propagator shell using pliers.

How to Install Air-propagators.

Place growing medium disks in each air-propagator shell as illustrated (FIG. 1-3).

- 2) Fill each air-propagator shell with water (FIG. 4) and wait 5 minutes or until all water is absorbed by growing medium disks (FIG. 5).



**SMALL (2")
AIR-PROPAGATOR**

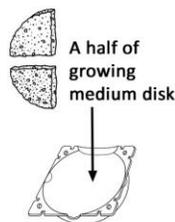


FIG. 1

**MEDIUM (4")
AIR-PROPAGATOR**

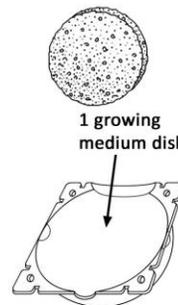


FIG. 2

**LARGE (6")
AIR-PROPAGATOR**

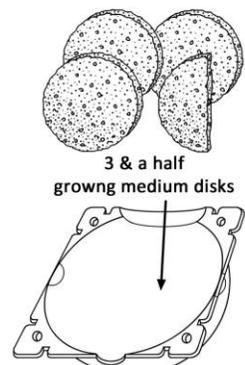


FIG. 3

1/4" - 1" STEM
(Medium or Large Air-propagators)

LESS THAN 1/4" STEM
(Small Air-propagators)

- 3) Using a sharp knife (FIG. 6) or cable cutter (FIG. 7), make two parallel cuts about 3/4" to 1" apart around the stem for medium air-propagators, about 1" to 1 1/4" apart for large air-propagators. **For best result, make a cut just below an eye.**

Caution: Don't cut through the stem. Just cut deeply enough so that the bark and cambium can be peeled off.

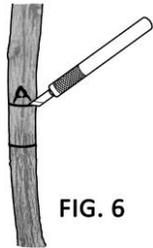


FIG. 6

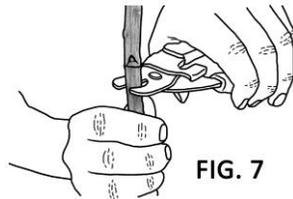


FIG. 7

- 4) Remove the bark and cambium (inner layer bark) around the stem between two cuts made in Step 2 (FIG. 8-10).

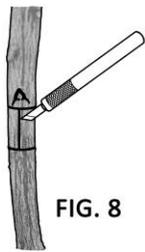


FIG. 8



FIG. 9



FIG. 10

- 5) Insert a plastic tie through a hole of each stopper piece (FIG. 11).

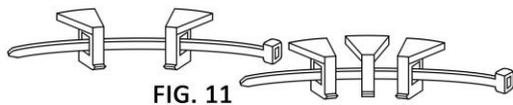


FIG. 11

Medium Air-propagator: Use 2 stopper pieces.
 Large Air-propagator: Use 3 stopper pieces.

- 6) Attach the stoppers around the stem 3" below the upper edge of the exposed stem for medium air-propagators (FIG. 12), 4" below the upper edge of the exposed stem for large air-propagators (FIG. 13).

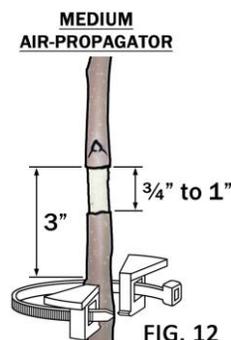


FIG. 12

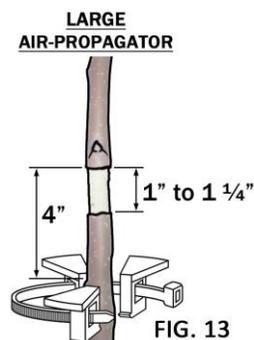


FIG. 13

- 3) Attach a small stick, 8" to 10" long, 1/8" to 3/16" diameter, to the stem where an air-propagator is installed (FIG. 14). Using plastic ties, secure both ends of the stick to the stem (FIG. 15). Plastic ties must be at least 6" apart.

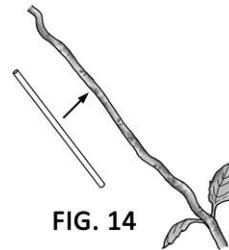


FIG. 14

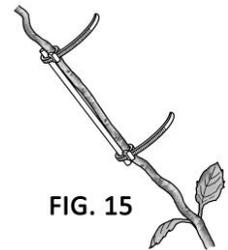


FIG. 15

- 4) Choose one of the methods below:

- Using a sharp knife, make 2 small cuts as illustrated (FIG. 16). **For best result, cut just below an eye.** OR
- Using a sharp knife, make upper scroll cuts as illustrated (FIG. 17). **For best result, cut just below an eye.**

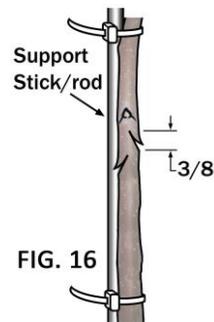


FIG. 16

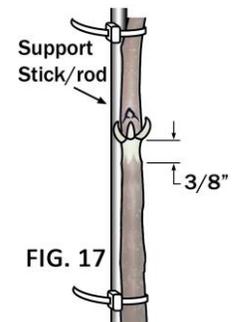


FIG. 17

- 5) Insert a plastic tie through a hole of each stopper piece (FIG. 18).

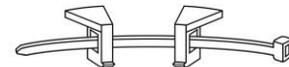


FIG. 18

Small Air-propagator: Use 2 stopper pieces.

- 6) Attach the stopper around the stem 1" to 1 1/4" below the upper edge of the exposed stem for small air-propagator (FIG. 19 & 20).

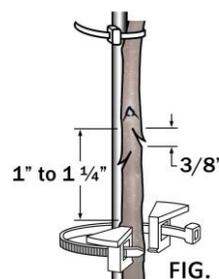


FIG. 19

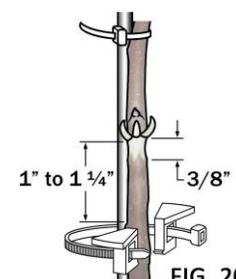


FIG. 20

- 7) Apply rooting hormone around exposed stem with a brush (FIG. 21).

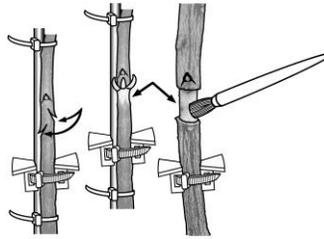


FIG. 21

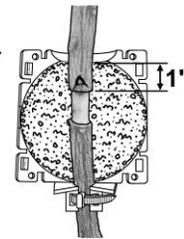


FIG. 22

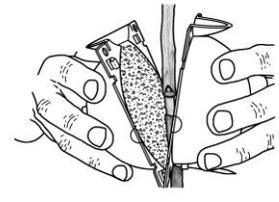


FIG. 23

- 8) Carefully put air-propagator shells together around the exposed stem on stoppers attached in Step 6. If you are using newly designed small or large air-propagators, align holes & hooks of each air-propagator shell, push in & slide shells to securely attach shells together (FIG. 22 & 23). **Go to Step 11.**

If you are using medium air-propagator shells, go to Step 9.

- 9) Temporarily put metal binder clips diagonally as shown (FIG. 24).

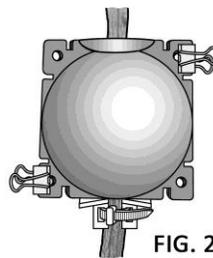


FIG. 24

- 10) Using 4 plastic ties (FIG. 25) or 2 plastic ties & 2 metal binder clips (FIG. 26), securely attach air-propagator shells together.

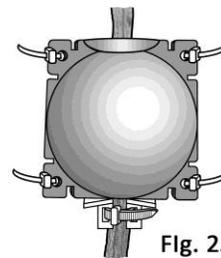


Fig. 25

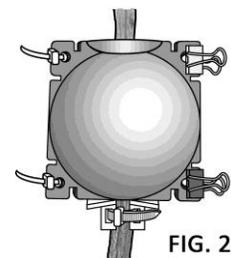


FIG. 26

- 11) Place a support stick/rod close to the branch with air-propagator and secure the branch to the stick/rod using plastic ties (FIG. 27). This is necessary for small or fragile stems, especially vines and climb roses.

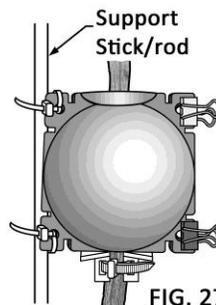


FIG. 27

- 12) After 6 to 8 weeks, open air-propagator shells and check the development of roots (FIG. 28). If you attach shells using 4 plastic ties, cut and remove plastic ties on one side only and open shells.

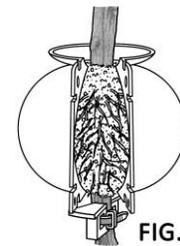


FIG. 28

Caution: If roots are not formed enough for transplant, close the shells (and attach metal binder clips or plastic ties) again.

When roots are developed enough for transplant, cut the branch below roots (FIG. 29) and transplant it to the pot or ground. Generally, roots are formed enough for transplant in 60 to 90 days, depending on plant varieties, weather, starting time of propagation, and other environmental issues. When the branch/stem is ready to transplant as follows:

Plant with woody branch:

Air-propagator shells are usually full of roots.

Vines, roses, and other small stem plants:

Root development is easily visible but not necessarily full.

How to Care Plants during Air-propagation

- Moisten the soil through the upper opening of shells once every 2 weeks or so.
- Keep the plant in shaded area to prevent heat damage by direct sunlight.
- Do not open air-propagator shells at least 3 to 4 weeks.

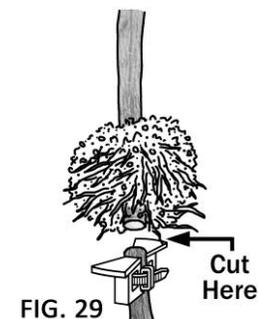


FIG. 29

How to Care Plants after Transplant

- Keep the plant shaded area or cover with plastic bag or sheet to prevent heat damage by direct sunlight at least a few days.
- Keep the soil moist but well-drained.
- Air-propagator shells are reusable.